ABSTRACT OF THE DISCLOSURE

The current invention concerns SMAD interacting protein(s) obtainable by a two-hybrid screening assay whereby SMAD1 C-domain fused to GAL4 DNA-binding domain as "bait" and a cDNA library from mouse embryo as "prey" are used. Some characteristics of a specific SMAD interacting protein (SIP1) of the family of zinc finger/homeodomain proteins including d-crystallin enhancer binding protein and/or *Drosophila* zfh-1 include an inability to interact with full size XSMAD1 in yeast, $SIP1_{czf}$ binds to E2 box sites, $SIP1_{czf}$ binds to the Brachyury protein binding site and interferes with Brachyury-mediated transcription activation in cells and also interacts with C-domain of SMAD 1, 2 and 5. The minimal length of the amino acid sequence necessary for binding with SMAD appears to be a 51 amino acid domain encompassing amino acids 166-216 of SEQ ID NO: 2 having the amino acid sequence as depicted in the one letter code: QHLGVGMEAPLLGFPTMNSNLSEVQKVLQIVDNTVSRQKMDCKTEDISKLK. (SEQ ID NO: 21)

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